

Amendment

U.S. Patent Application Serial No. 09/546,932

REMARKS

Claims 1, 2, 7, 9 - 12, 14, 15, 17, 18, 20 - 22, 25, 26, 28 - 30 and 32 have been amended.

Claims 1 – 35 are present in the subject application.

In the Office Action dated November 3, 2003, the Examiner has objected to the disclosure, has objected to claims 20 and 28, has rejected claims 1 – 13 and 19 – 35 under 35 U.S.C. §102(e) and has rejected claims 14 – 18 under 35 U.S.C. §103(a). Reconsideration of the subject application is respectfully requested in view of the following remarks.

The Examiner has objected to the disclosure due to informalities. In particular, the Examiner is requesting insertion of a serial number into the specification for a mentioned patent application and correction of a minor typographical/grammatical error. Accordingly, the specification has been amended to include the requested serial number and to correct the minor error in accordance with the Examiner's comments. No new matter has been added. The disclosure is considered to overcome the objection.

The Examiner has objected to claims 20 and 28 due to informalities. In particular, the Examiner takes the position that the term “digital image modification instruction” in claim 20 should read “digital image processing instruction”. The Examiner takes the further position that claim 28 should be modified to depend from claim 27. Accordingly, claim 20 has been amended in accordance with the Examiner's comments to recite the term “digital image processing instruction”, while claim 28 has been modified to depend from claim 26 for consistency and to broaden the claim scope. The claims are considered to overcome the objection.

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The Examiner has rejected claims 1 – 4, 6 – 13 and 19 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,912,972 (Barton). Briefly, the Barton patent discloses a method and apparatus for embedding authentication information within digital data. Arbitrary digital information is embedded within a stream of digital data, in a way that avoids detection by a casual observer and that allows a user to determine whether the digital data have been modified from their intended form. The embedded information may only be extracted as authorized and may be used to verify that the original digital data stream has not been modified.

In contrast, the present invention is directed toward a method, apparatus and system that allows a user to perform an unlimited amount of modifications to a digital image (e.g., photo or video) or other multimedia asset, but retains the ability to automatically access the user's original image (e.g., "digital negative"). This enables the user's original image to reside anywhere within a distributed system and provides for storage of a modified image locally or remotely while maintaining a reference to the original image. By using a linked edit list, editing operations can be applied on the full resolution version of the original high-resolution image (e.g., digital negative) at a later time whenever a higher-resolution image is needed. The edit list is typically associated with the modified image, such that the resultant image can be recreated as needed. The edit list typically contains information necessary to perform the reconstruction and may include references to original images and any additional multimedia assets needed for the reconstruction. The edit list may further include a list of editing operations that are to be performed.

The Examiner takes the position that the Barton patent discloses all the features within these claims. In particular, the Examiner takes the position that the Barton patent discloses

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applying a multimedia asset processing command (in the form of information within meta-data) to a first multimedia asset (in the form of a block of digital data) to form the second multimedia asset (in the form of an authenticated digital block).

This rejection is respectfully traversed. Initially, independent claim 1 has been amended to recite the features of the first multimedia asset being stored in a file excluding the second multimedia asset and the multimedia asset processing command being associated with the second multimedia asset, and uniquely linking the second multimedia asset to the first multimedia asset file using the multimedia asset processing command such that the first multimedia asset is utilized to produce the second multimedia asset.

The Barton patent does not disclose, teach or suggest these features. Rather, the Barton patent discloses a method and apparatus for basic authentication of a digital block (e.g., See Column 4, lines 19 – 20). An encoding method embeds an authentication stamp in a digital block and a decoding method retrieves meta-data from an authenticated digital block and may further restore the original data block (e.g., See Column 6, lines 20 – 25). Specifically, for each data block, a control process presents a data block and an additional bit string that may contain meta-data along with basic authentication information to be embedded in the data block (e.g., See Column 6, lines 57 – 60). The meta-data may be a block sequence number or a bit string that identifies the creator of the block or the licensing agent (e.g., See Column 6, lines 60 – 63). The embedding process modifies the data block in place to contain the embedded information (e.g., See Column 6, lines 63 – 64). The control process presents the data block with embedded information to a retrieval process that retrieves the embedded information to determine the presence of data block tampering (e.g., See Column 7, line 55 to Column 8, line 27).

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Thus, the Barton patent discloses embedding information (including meta data information which is construed by the Examiner as the multimedia asset processing command) within the original data block (construed by the Examiner as the first multimedia asset) to enable the original data block to become or be transformed into the authenticated data block (construed by the Examiner as the second multimedia asset). Since the original data block is inaccessible to the authenticated data block by virtue of the original data block becoming the authenticated data block, the Barton patent does not disclose, teach or suggest linking the authenticated data block to a separate file containing the original data block or, for that matter, accomplishing the linking via a processing command applied to the original data block to form the authenticated data block as recited in the claim. Since the Barton patent does not disclose, teach or suggest the features recited in independent claim 1 as discussed above, this claim is considered to be in condition for allowance.

Claims 2 – 4, 6 – 13 and 19 depend either directly or indirectly from independent claim 1 and, therefore, include all the limitations of their parent claim. Claims 2, 7 and 9 – 12 have been amended for consistency with their amended parent claim and/or for further clarification of the present invention. The dependent claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claim and for further limitations recited in the claims.

The Examiner has rejected claims 1 – 9 and 20 – 35 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,567,119 (Parulski et al.). Briefly, the Parulski et al. patent discloses an electronic still imaging system employing an image sensor comprised of discrete light sensitive picture elements overlaid with a color filter array (CFA) pattern to produce color

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image data corresponding to the CFA pattern, an A/D converter for producing digital CFA image data from the color image data, and a memory for storing the digital CFA image data from the picture elements. A processor enables the processing of the digital CFA image data to produce finished image data, and the digital CFA image data and the finished image data are both stored together in an image file. This enables image processing from raw camera data to final output data to be completed in a single, integrated process to provide improved image quality when printing.

In contrast, the present invention is directed toward a method, apparatus and system that allows a user to perform an unlimited amount of modifications to a digital image (e.g., photo or video) or other multimedia asset while retaining the ability to automatically access the user's original image as described above.

The Examiner takes the position with respect to claims 1 – 9 that the Parulski et al. patent discloses applying a multimedia asset processing command (in the form of an extension property set) to a first multimedia asset (in the form of an original thumbnail image) to form a second multimedia asset (in the form of a modified thumbnail image). However, this rejection is respectfully traversed. As discussed above, independent claim 1 has been amended to recite the features of the first multimedia asset being stored in a file excluding the second multimedia asset and the multimedia asset processing command being associated with the second multimedia asset, and uniquely linking the second multimedia asset to the first multimedia asset file using the multimedia asset processing command such that the first multimedia asset is utilized to produce the second multimedia asset.

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The Parulski et al. patent does not disclose, teach or suggest these features. Rather, the Parulski et al. patent discloses an electronic still imaging system. Original camera data or a CFA image is transferred to a host computer and processed to form a format image file (i.e., FlashPix file). The CFA image data is stored within an extension of the FlashPix file (e.g., See Column 3, lines 31 – 43 and Column 5, lines 46 – 67). The FlashPix file further includes an unmodified thumbnail of the image in the file extension and a modified thumbnail of the image including user modifications to the image. If the standard file format is edited during standard usage of the FlashPix file, simple modifications made to the FlashPix file do not modify the image data, but rather a list of modifications is recorded in the viewing parameters set within that file, while the standard thumbnail image is modified. Complex modifications that require modification of image data are recorded in an advanced edits list within the file extension, where the recorded edits may later be applied to the CFA image (e.g., See Fig. 5 and Column 6, lines 15 - 32). The thumbnail images are utilized to ensure that the image data has not been altered by an image processing application, thereby enabling use of the CFA image to produce the output image. The original thumbnail image in the file extension is processed by applying the recorded viewing parameters or advanced edits and comparing the result with the standard thumbnail image in the same file. If the two images are different, the CFA image should not be used to produce the output image (e.g., See Column 8, lines 11 – 25).

Since the unmodified and modified thumbnail images (respectively construed by the Examiner as the first and second multimedia assets in independent claim 1) are stored in the same image or FlashPix file, the Parulski et al. patent does not disclose, teach or suggest linking the modified thumbnail image to a separate file containing the unmodified thumbnail image or,

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for that matter, accomplishing the linking via a processing command applied to the unmodified thumbnail image as recited in independent claim 1. Although the Parulski et al. patent discloses recordation of a list of modifications in a viewing parameters set and/or in an advanced edits list (where the modifications may later be applied to the unmodified thumbnail image and/or to the CFA image) as described above, the parameters set and edit list are stored in the same image or FlashPix file as the thumbnail images and merely record the edits performed on the image within the image file. Thus, there is no disclosure, teaching or suggestion of the recorded parameters and edits including processing commands linking the modified thumbnail image to a separate file containing the unmodified thumbnail image to which the processing command is applied as recited in independent claim 1.

With respect to claims 20 - 35, the Examiner takes the position that the Parulski et al. patent discloses a digital image processing system comprising an input controller (in the form of application programs for an interface within a computer with a digital image processing instruction in the form of an extension property set) that outputs a second digital image (in the form of a CFA image), an image processor (in the form of application programs for an output interface within the computer) and a digital image processing instruction processor (in the form of application programs in the computer).

This rejection is respectfully traversed. Independent claim 20 has been amended to recite the features of the input controller outputting a third digital image in response to the presence of the digital image processing instruction within the input digital data stream, wherein the third digital image is stored in a file excluding the first digital image with the first digital image being

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linked, via a digital image processing instruction, to the third digital image file to facilitate output of the third digital image.

The Parulski et al. patent does not disclose, teach or suggest these features. As discussed above, the Parulski et al. patent discloses an electronic still imaging system, where a CFA image is transferred to a host computer and processed to form a format image file (i.e., FlashPix file) for the processed image. The CFA image data is stored within an extension of the FlashPix file (e.g., See Column 3, lines 31 – 43 and Column 5, lines 46 – 67). If the standard file format is edited during standard usage of the FlashPix file, simple modifications made to the FlashPix file do not modify the processed image data, but rather a list of modifications is recorded in the viewing parameters set within that file, while a standard thumbnail image within the FlashPix file is modified. Complex modifications that require modification of processed image data are recorded in an advanced edits list within the file extension, where the recorded edits may later be applied to the CFA image (e.g., See Fig. 5 and Column 6, lines 15 - 32). The FlashPix file with the extension may be used by a printing stage. If the printer does not understand the file extension, the FlashPix or processed image data is printed in a conventional manner. However, when the file extension is understood, the CFA image is processed to provide data to be printed (e.g., See Column 7, lines 6 - 27).

Since the CFA image (construed by the Examiner as the second digital image output by the input controller and used to form the output image in independent claim 20) used to form the output image for printing is stored within the same FlashPix file containing the processed image, there is no disclosure, teaching or suggestion of the image file or processed image being linked to a separate file containing the CFA image or, for that matter, the linking being accomplished by

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a processing instruction applied to the CFA image to form the output image as recited in independent claim 20. Although the Parulski et al. patent discloses recordation of a list of modifications in a viewing parameters set and/or in an advanced edits list (where the modifications may later be applied to the unmodified thumbnail image and/or to the CFA image) as described above, the parameters set and edit list are stored in the same image or FlashPix file containing the processed and CFA images and merely record the edits performed on the processed image within the image file. Thus, there is no disclosure, teaching or suggestion of the recorded parameters and edits including processing instructions linking the processed image or image file to a separate file containing the CFA image to which the instruction is applied to form the output image as recited in independent claim 20. Since the Parulski et al. patent does not disclose, teach or suggest the features recited in independent claims 1 and 20 as discussed above, these claims are considered to be in condition for allowance.

Claims 2 – 9 and 21 – 35 respectively depend, either directly or indirectly, from independent claims 1 and 20 and, therefore, include all the limitations of their parent claims. Claims 2, 7 and 9 have been amended as described above, while claims 21, 22, 25, 26, 28 – 30 and 32 have been amended for consistency with their amended parent claim and/or for further clarification of the present invention. The dependent claims are considered to be in condition for allowance for substantially the same reasons discussed above in relation to their parent claims and for further limitations recited in these claims.

The Examiner has rejected claims 14 – 18 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,912,972 (Barton) in view of U.S. Patent No. 6,567,119 (Parulski et al.). Briefly, the Barton patent discloses a method and apparatus for embedding authentication

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information within digital data as described above, while the Parulski et al. patent discloses an electronic still imaging system as described above.

In contrast, the present invention is directed toward a method, apparatus and system that allows a user to perform an unlimited amount of modifications to a digital image (e.g., photo or video) or other multimedia asset while retaining the ability to automatically access the user's original image as described above.

The Examiner takes the position that the combination of the Barton and Parulski et al. patents disclose the features recited within these claims. However, this rejection is respectfully traversed. Initially, claims 14 – 18 depend, either directly or indirectly, from independent claim 1 and, therefore, include all the limitations of their parent claim. As discussed above, the Barton patent does not disclose, teach or suggest the features recited in claim 1 of the first multimedia asset being stored in a file excluding the second multimedia asset and the multimedia asset processing command being associated with the second multimedia asset, and uniquely linking the second multimedia asset to the first multimedia asset file using the multimedia asset processing command such that the first multimedia asset is utilized to produce the second multimedia asset. The Parulski et al. patent does not compensate for the deficiencies of the Barton patent, and similarly does not disclose, teach or suggest these features for the reasons discussed above. Since the Barton and Parulski et al. patents do not disclose, teach or suggest, either alone or in combination, the features recited in claims 14 – 18 as discussed above, these claims are considered to be in condition for allowance.

In addition to the foregoing, it would not be obvious to combine the Barton and Parulski et al. patents. In particular, the Barton patent is directed toward a method and apparatus for

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embedding authentication information within digital data in a manner that avoids detection by a casual observer as described above. However, the Parulski et al. patent is directed toward providing an image file with an extension property set to provide improved image quality when printing as described above. Thus, the Parulski et al. patent is not concerned with embedding information within a digital image in an unnoticeable fashion, but rather, provides additional fields within a file in a conspicuous manner to enable enhanced processing of the image. Accordingly, the Barton and Parulski et al. patents are directed toward diverging applications and there is no apparent reason to combine their teachings absent prohibited hindsight derived from Applicants' own disclosure. Accordingly, the proposed combination of the Barton and Parulski et al. patents does not render the claimed invention obvious.

The application, having been shown to overcome issues raised in the Office Action, is considered to be in condition for allowance and a Notice of Allowance is earnestly solicited.

Respectfully Submitted,


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